



NOAA's National Weather Service

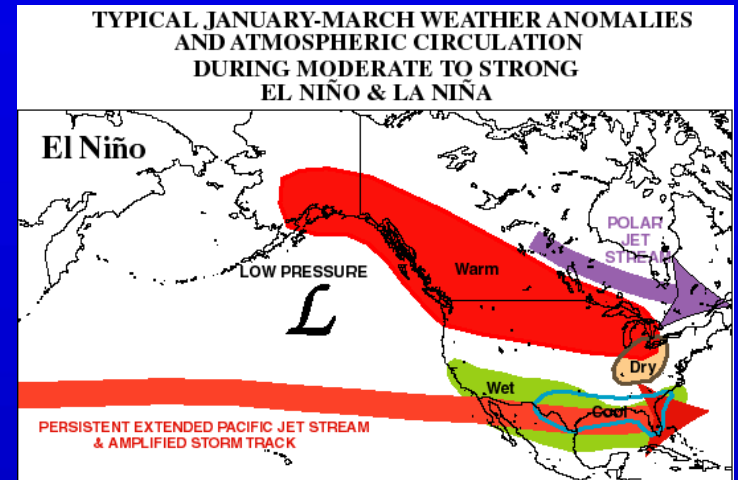
El Niño / Southern Oscillation (ENSO)

*What does it mean for us and is El Nino still
coming this winter?*

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National Weather Service
Eureka, CA
December, 2014

Outline

- Review of ENSO
- Where are we now?
- Impacts for California
- Strong and Weak El Nino's
- Drought
- Official Forecast

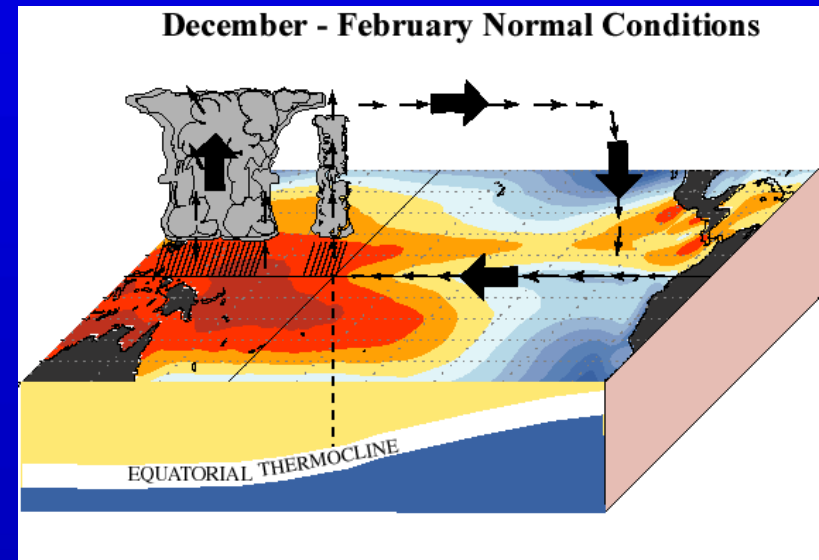


What is the El Niño / Southern Oscillation (ENSO)?

- Shift in the Sea Surface Temperature (SST) and atmospheric patterns in the tropics
- Both must take place to be considered an El Nino or La Nina event
- Three phases: El Nino(warm), La Nina(cold), and Neutral.

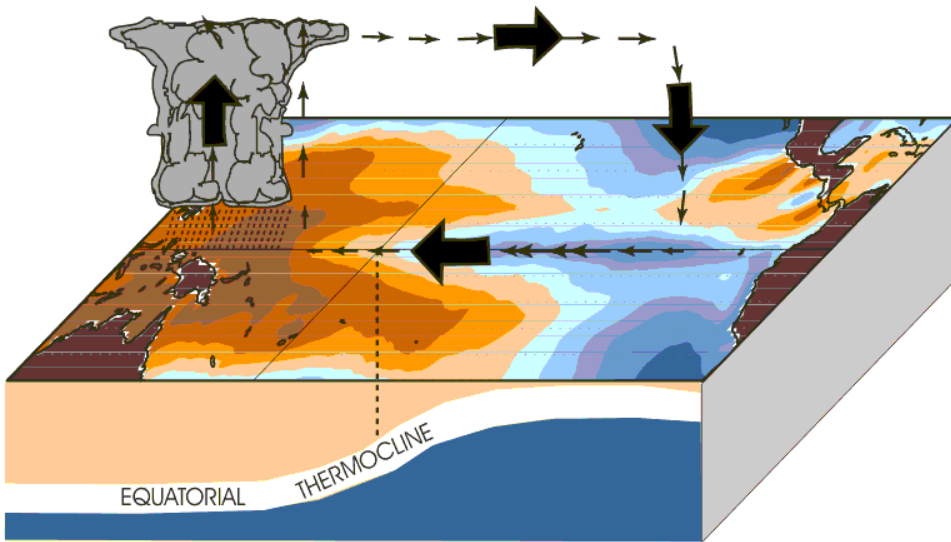
Temperature of Water impacts convection in tropics changes overall weather pattern

- This graphic shows neutral conditions
- SST's are close to normal along the equator

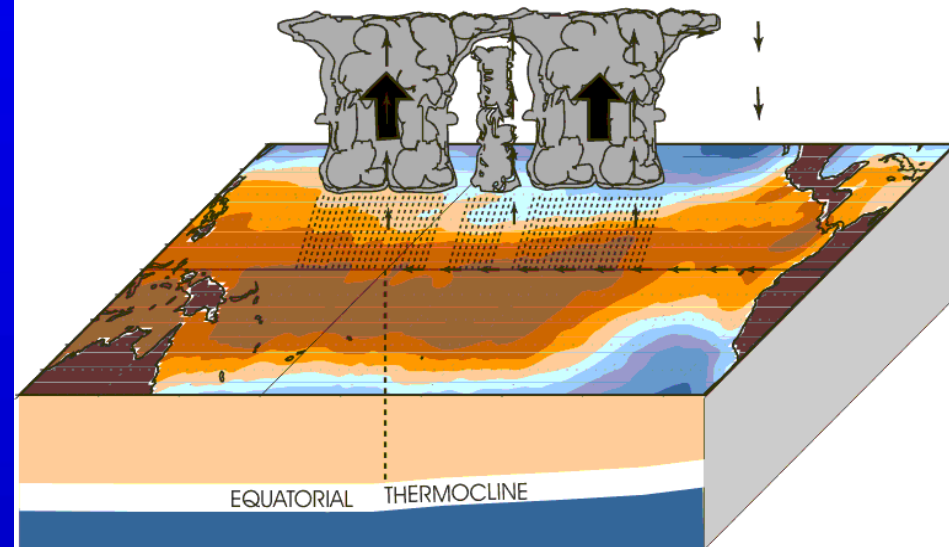


Low-Level Winds & Thermocline Depth: El Niño vs. La Niña

December - February La Niña Conditions



December - February El Niño Conditions

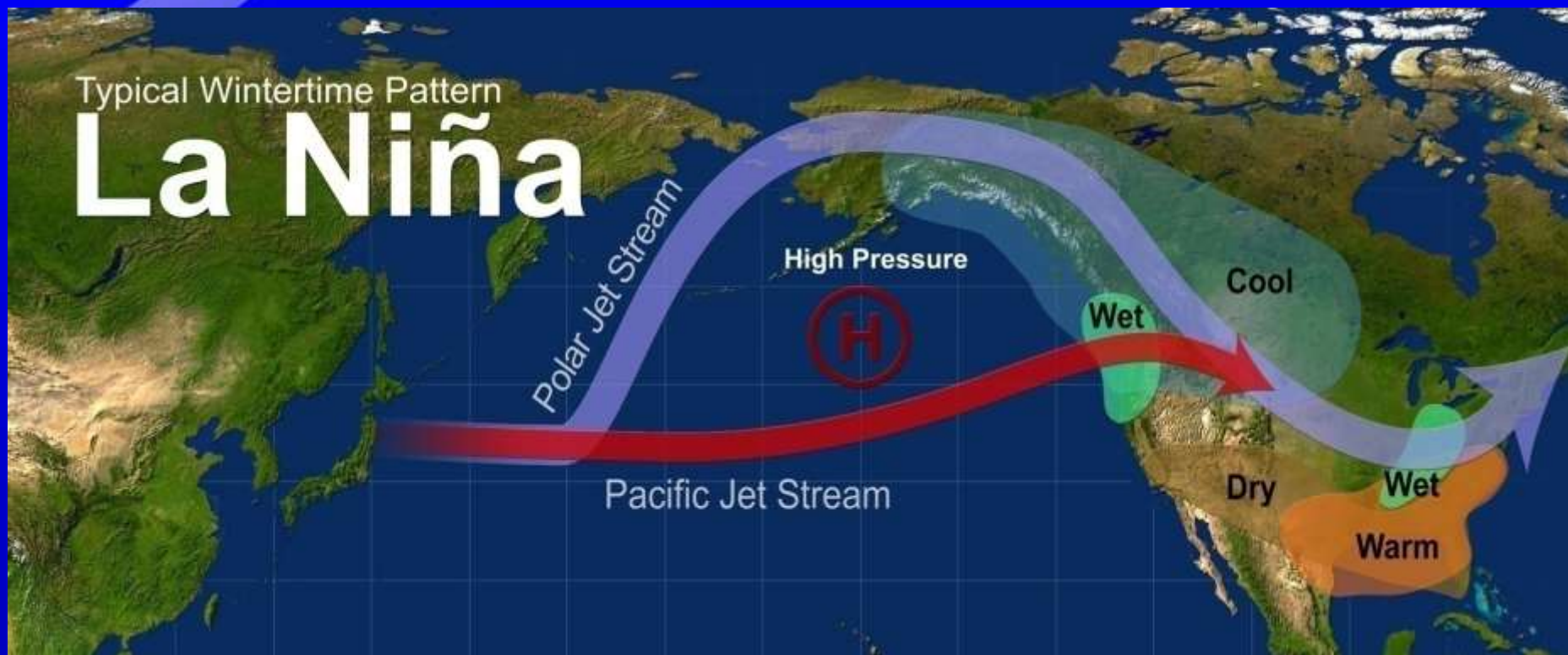


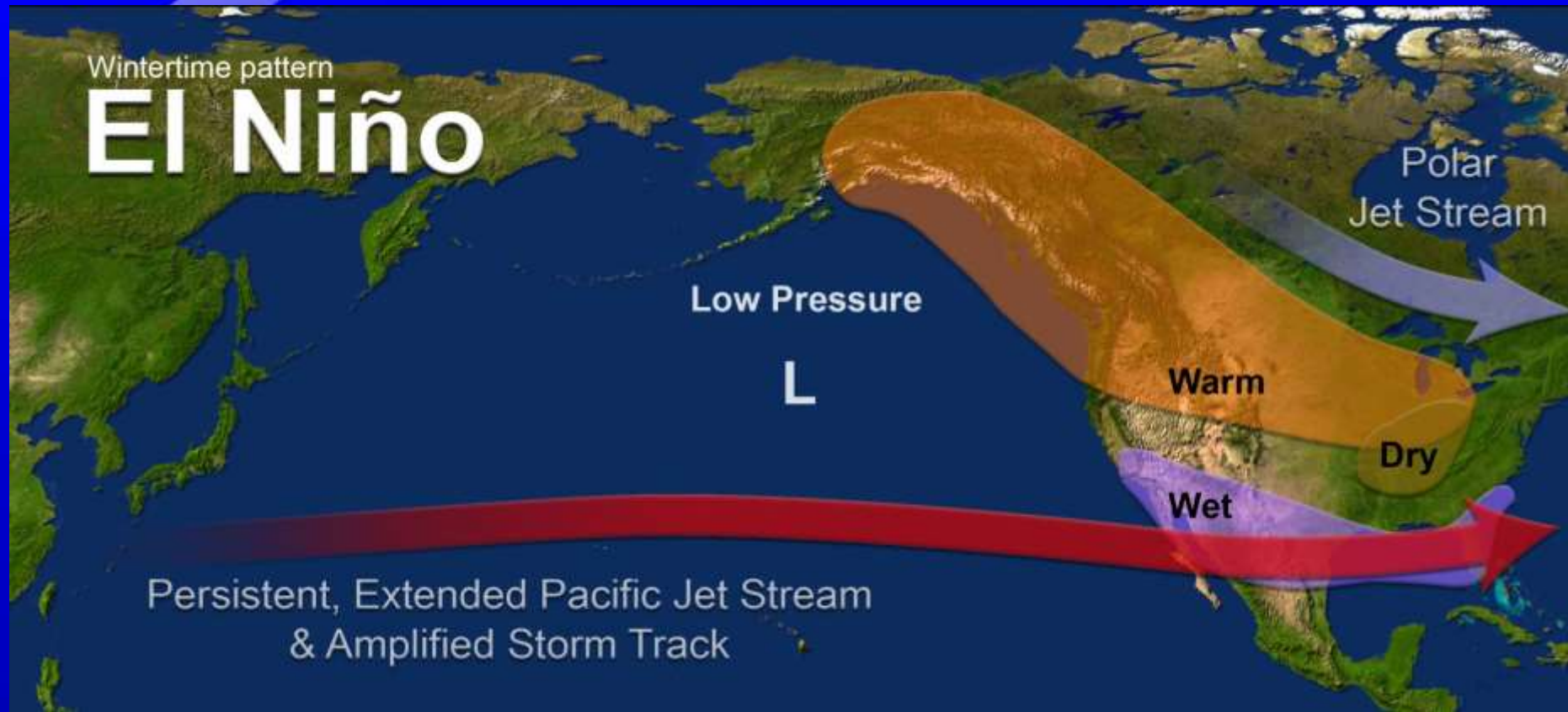
La Niña: stronger-than-average easterlies lead to a deeper (shallower)-than-average thermocline in the western (eastern) eq. Pacific.

El Niño: weaker-than-average easterlies lead to a deeper (shallower)-than-average thermocline in the eastern (western) eq. Pacific.

Typical Wintertime Pattern

La Niña



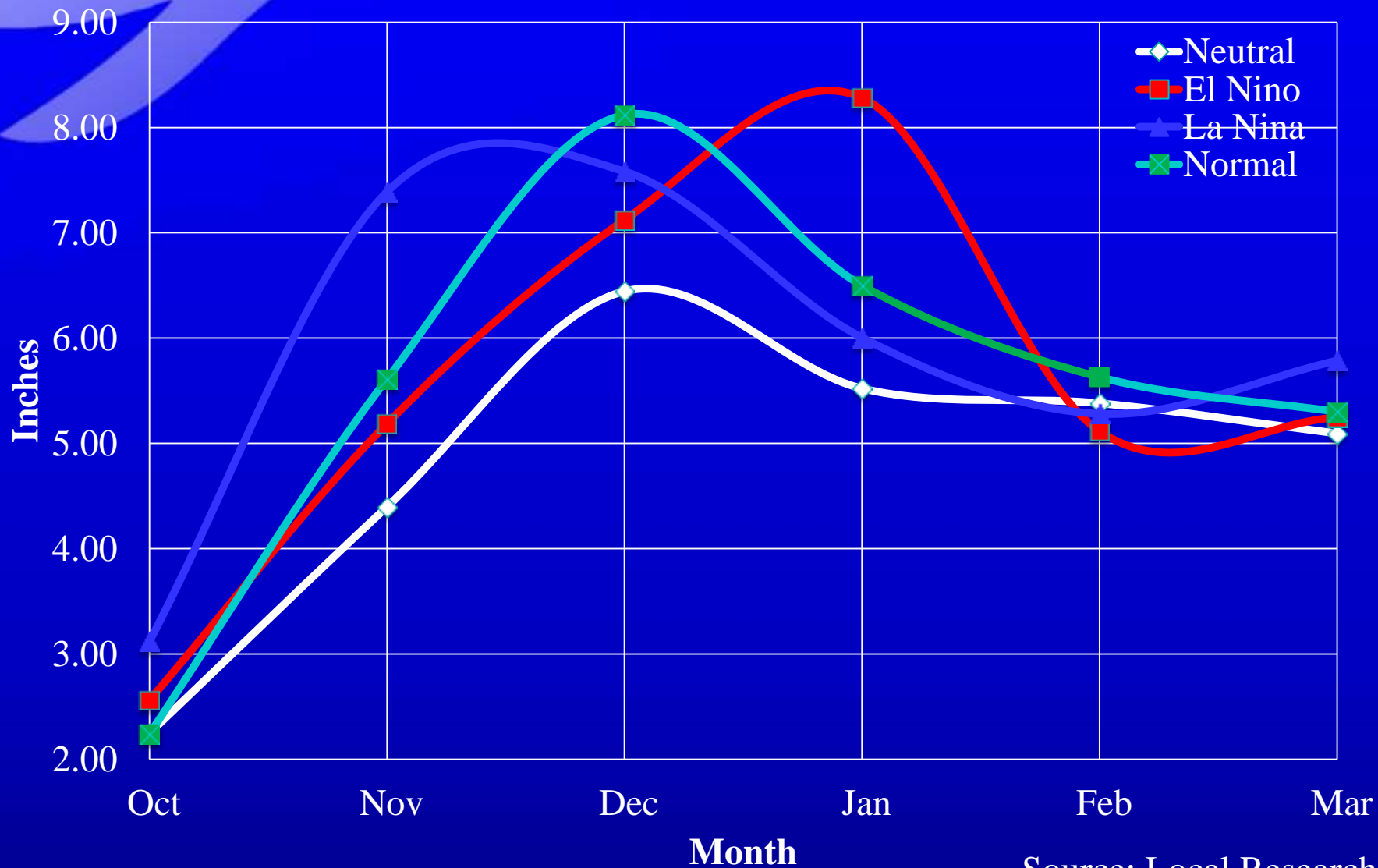


**El Niño rhymes with “low” - the
storm track is lower**

Local Impacts El Nino/La Nina

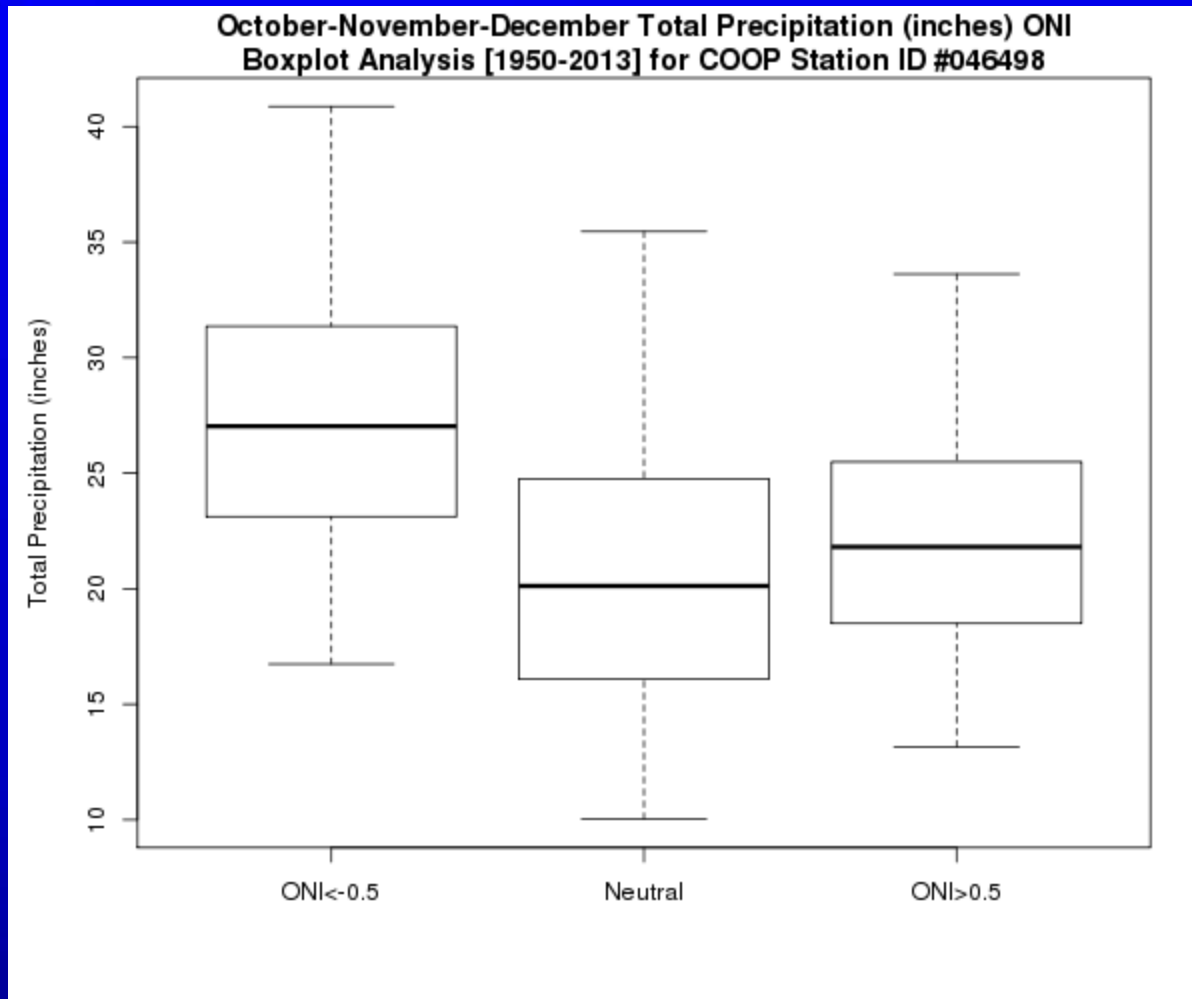
- Eureka – changes in timing of precip
- Strong El Nino - Some of the wettest years in Eureka
- Other events – hard to say as much for this region

Average precipitation by month at WFO Eureka since ENSO records began in 1950



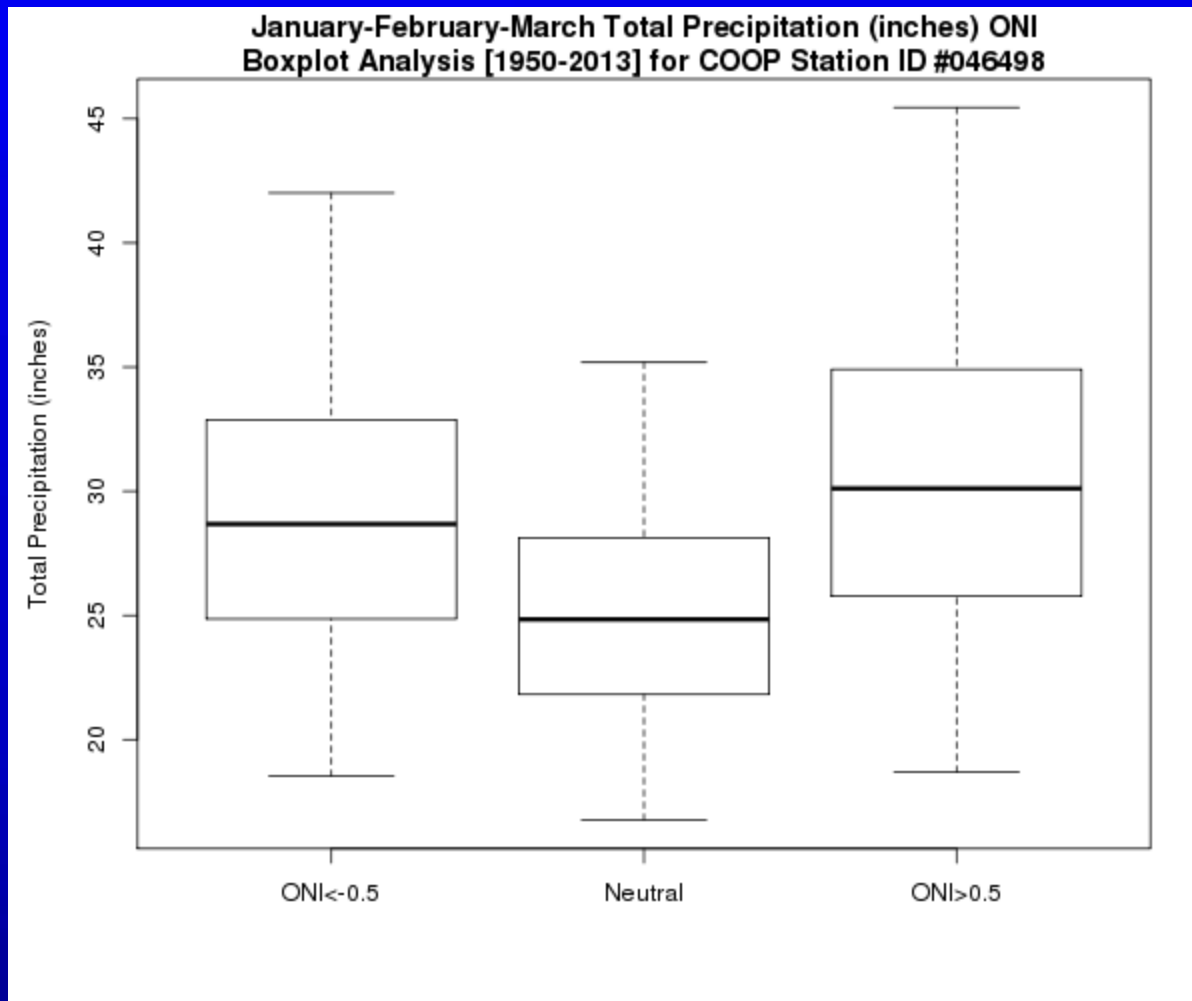
Source: Local Research

Orick: Oct – Dec rainfall



Source: LCAT

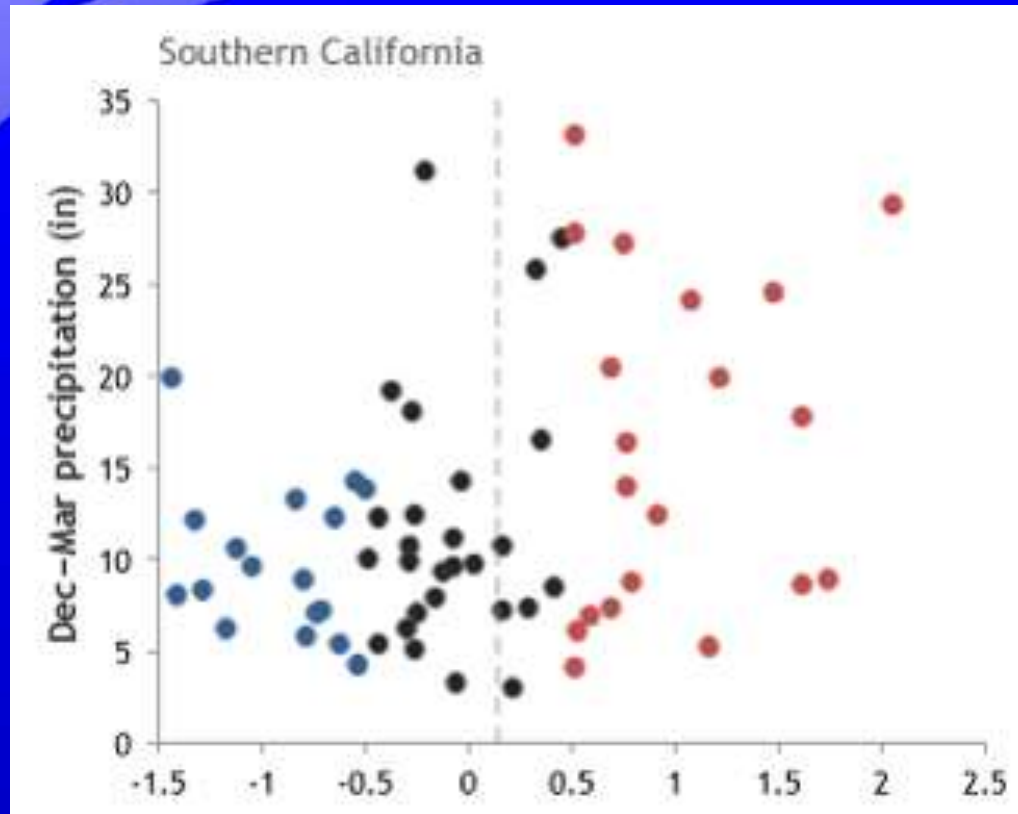
Orick: Jan – Mar rainfall

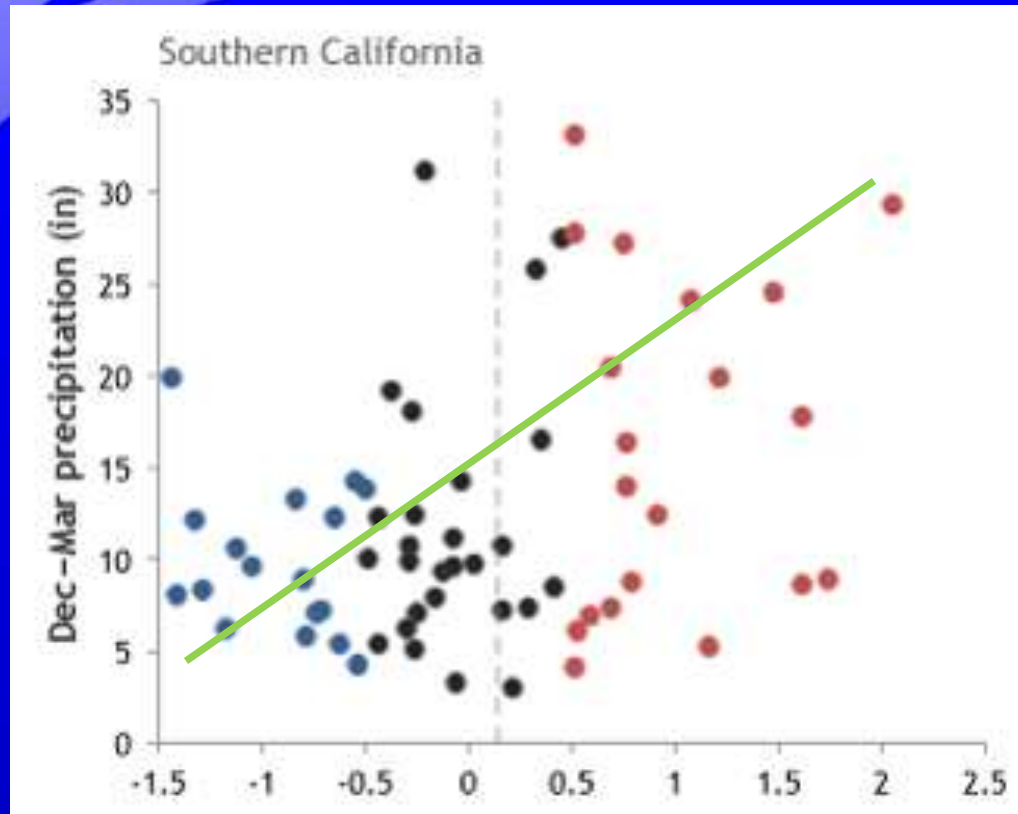


Source: LCAT

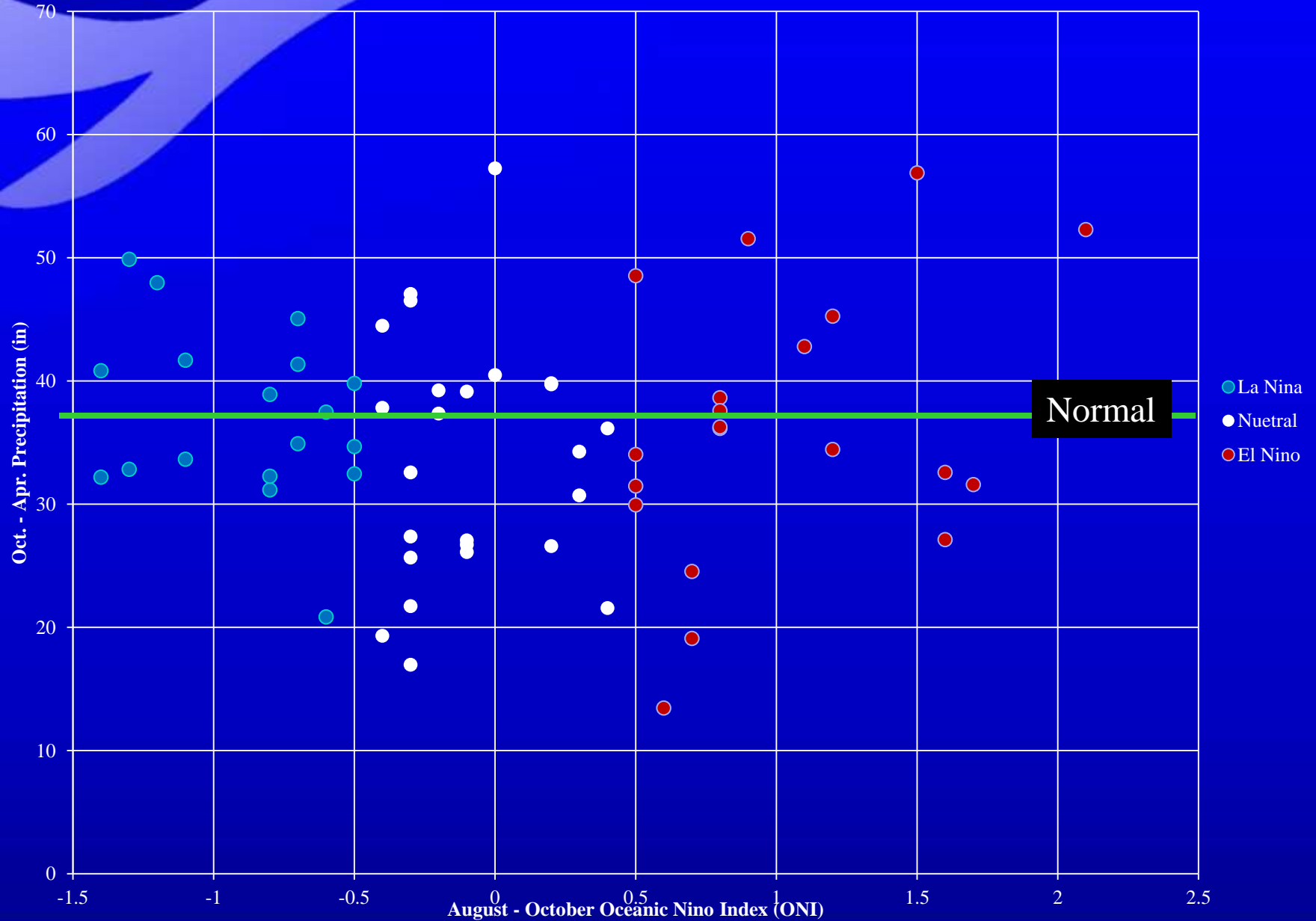
Not great connect for this region

- Strength of El Nino/La Nina important

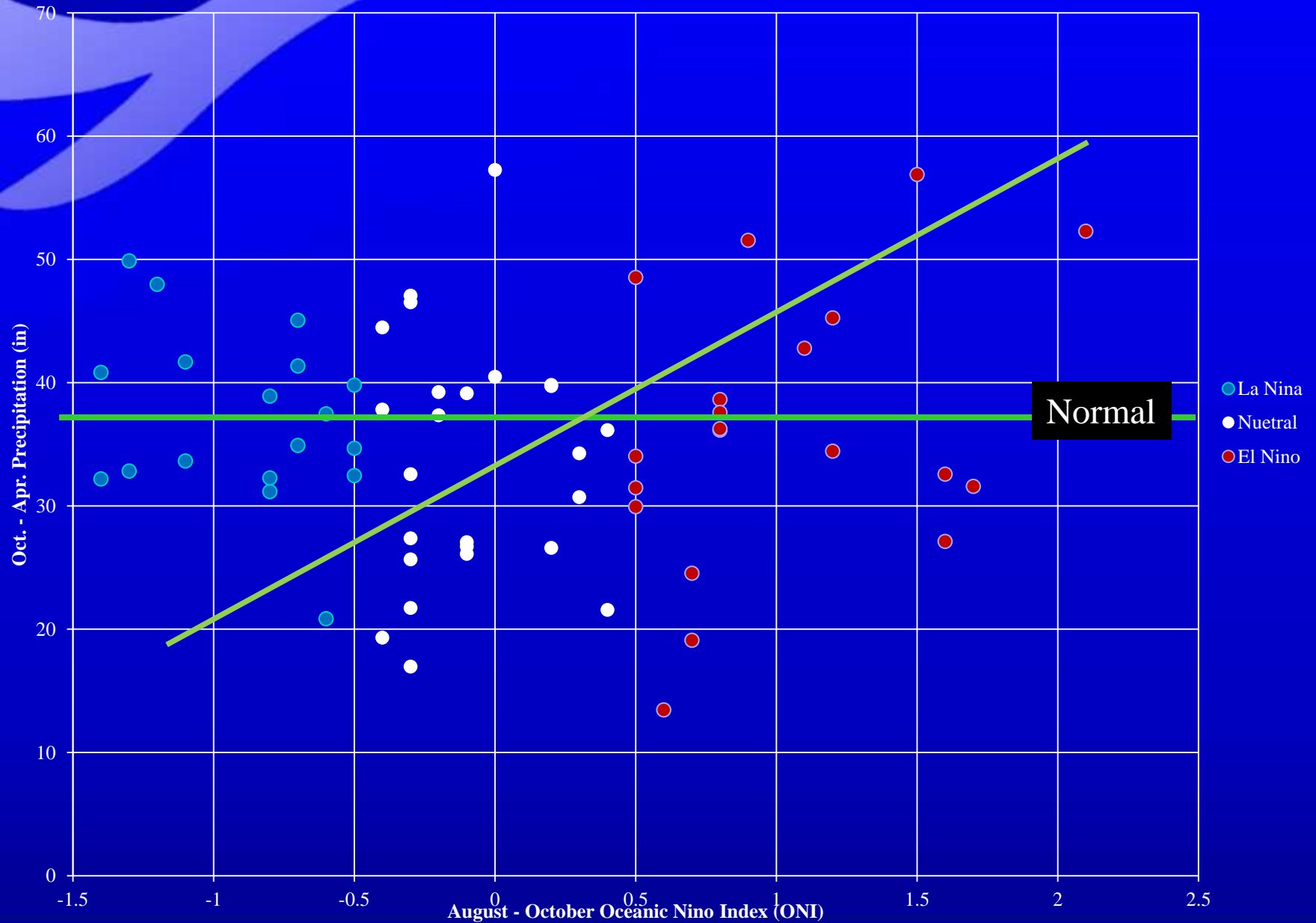




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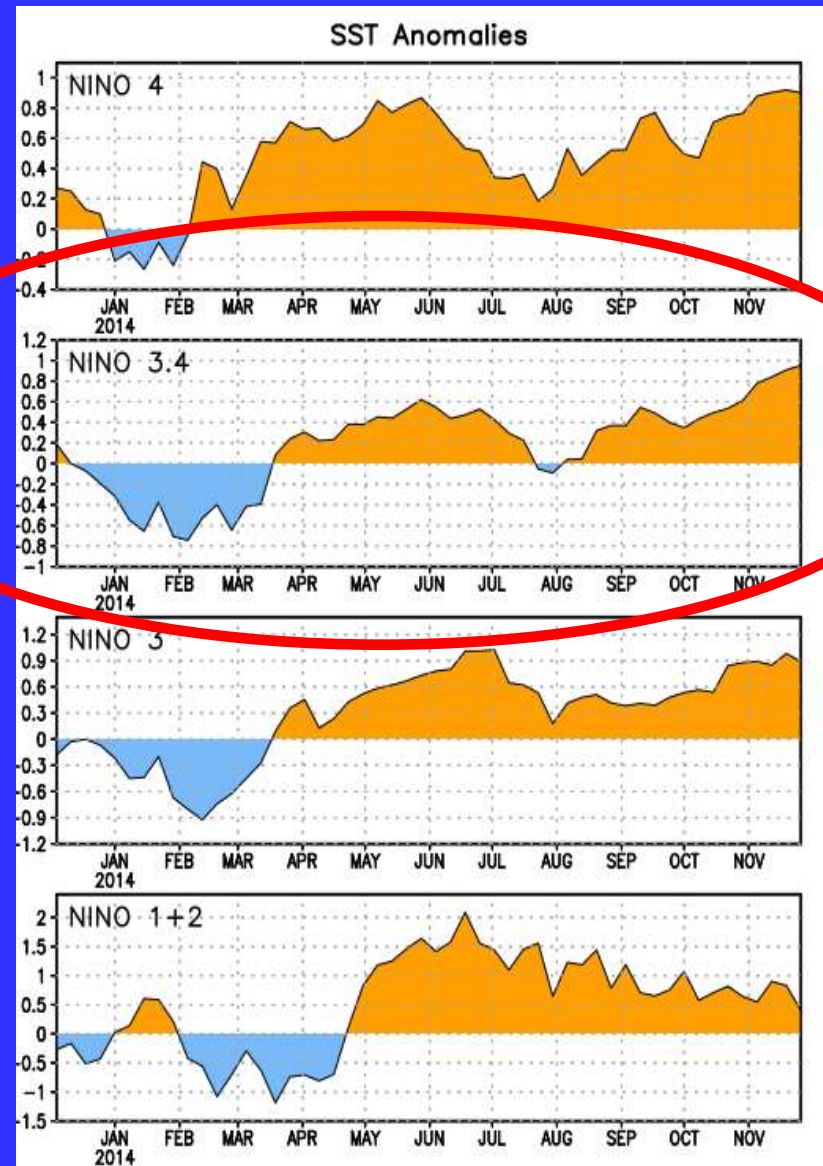
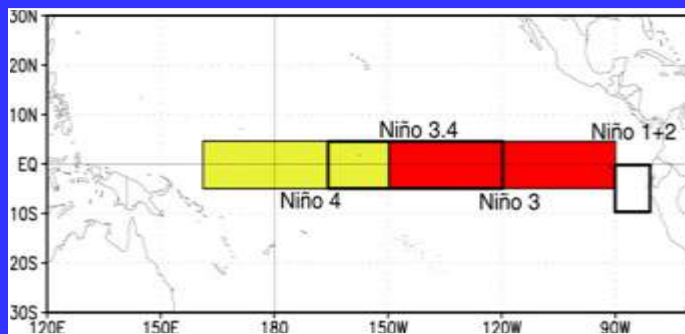
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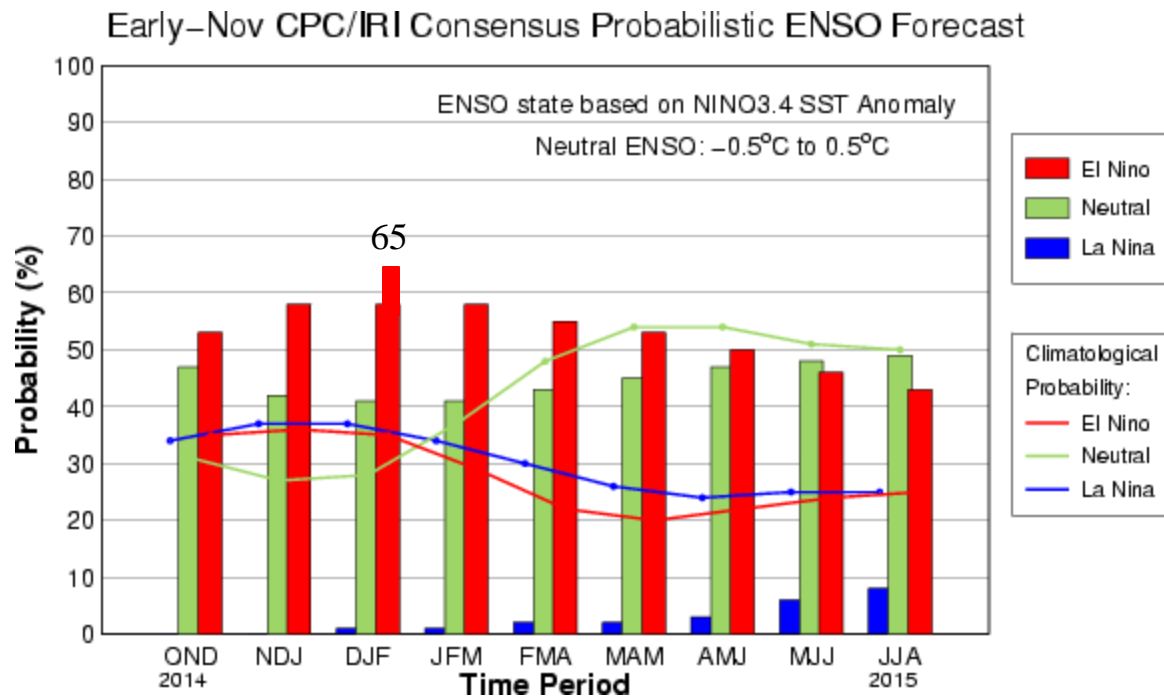
Niño Region SST Departures (°C) Recent Evolution

The latest weekly SST
departures are:

Niño 4	0.9°C
Niño 3.4	1.0°C
Niño 3	0.9°C
Niño 1+2	0.4°C



Probability of El Nino this winter

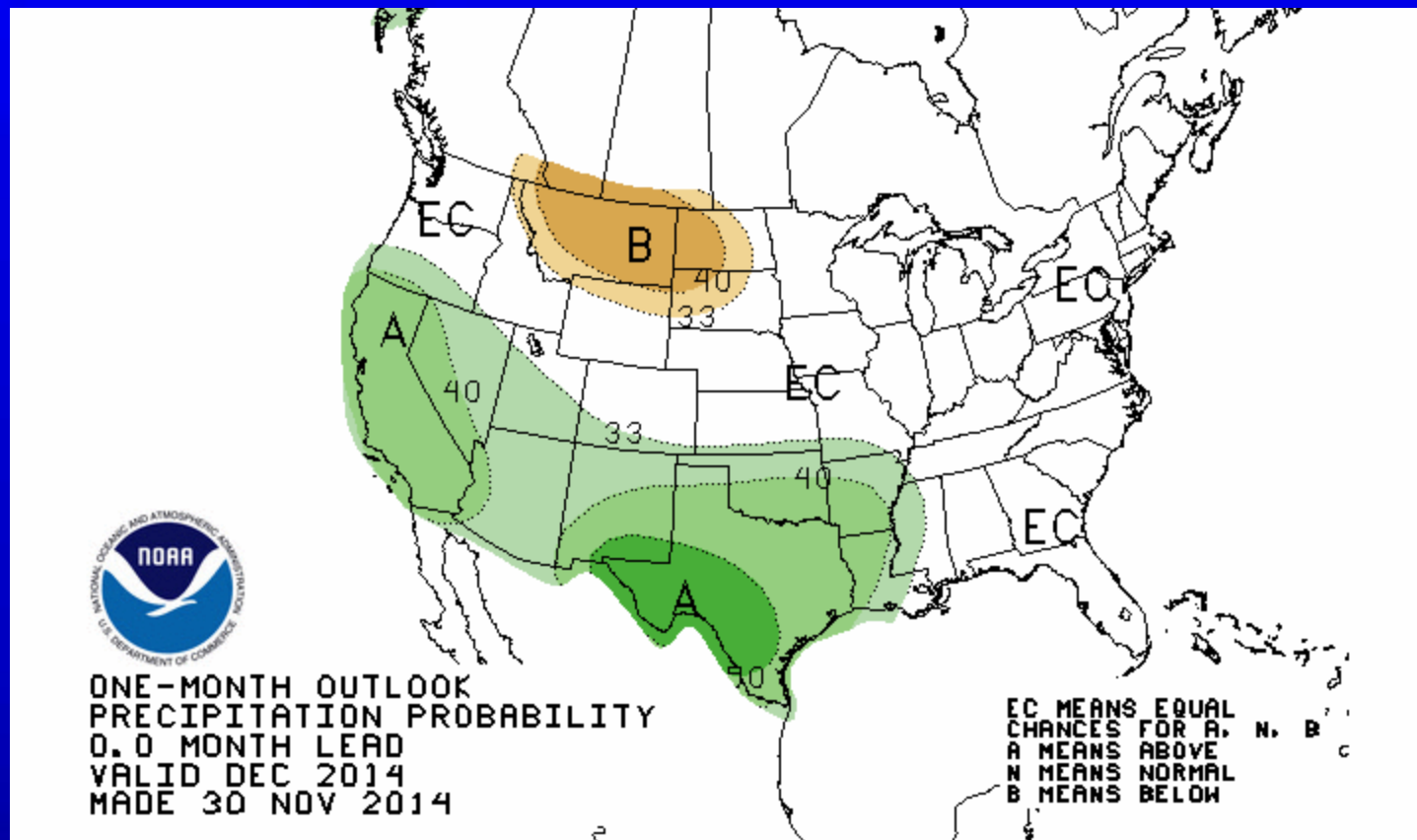


Lake Shasta November 24th

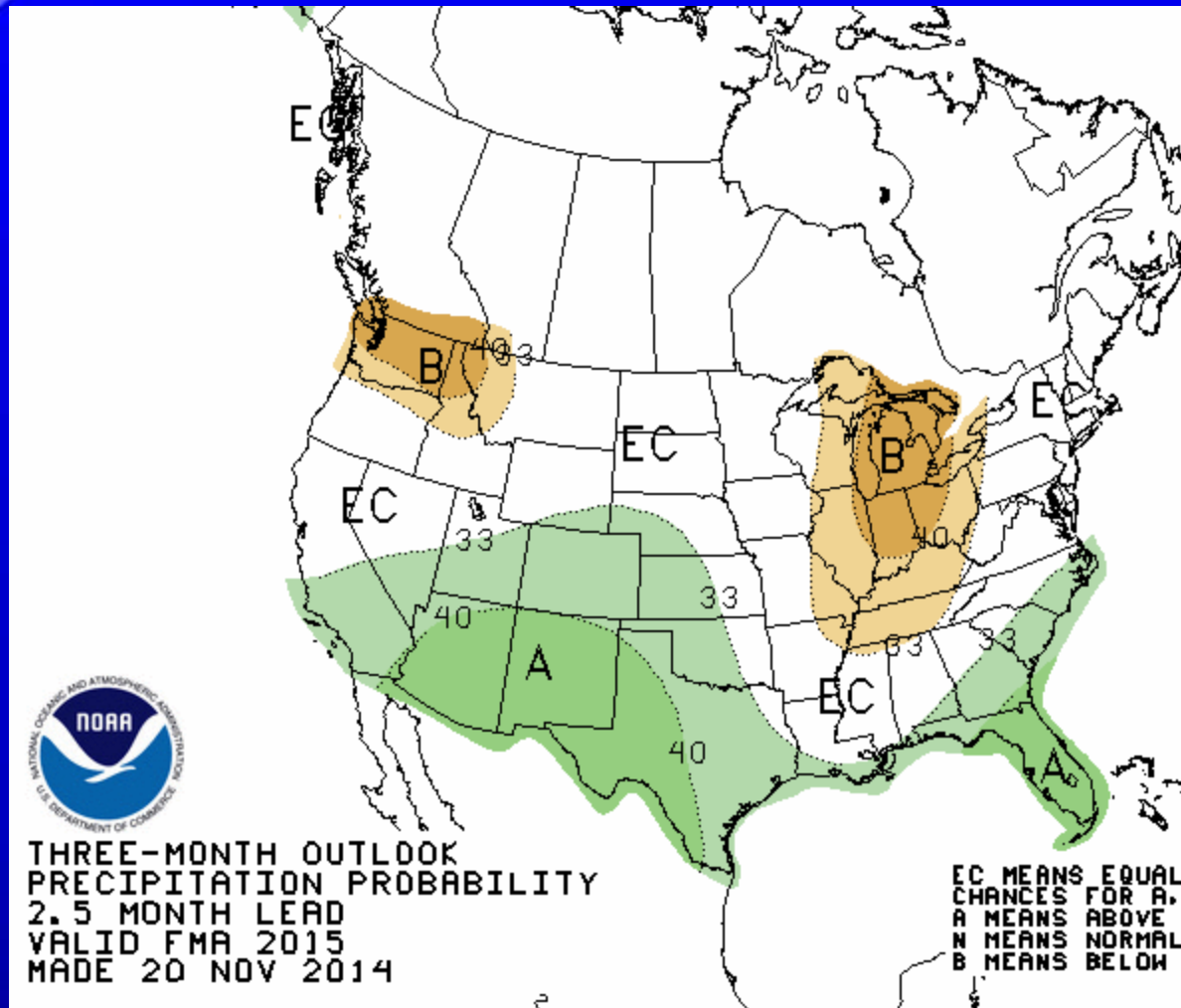


Photo courtesy of Mark S.

Forecast for December



Forecast for this Spring



Source: Climate Prediction Center

Further reading

- Enso Blog

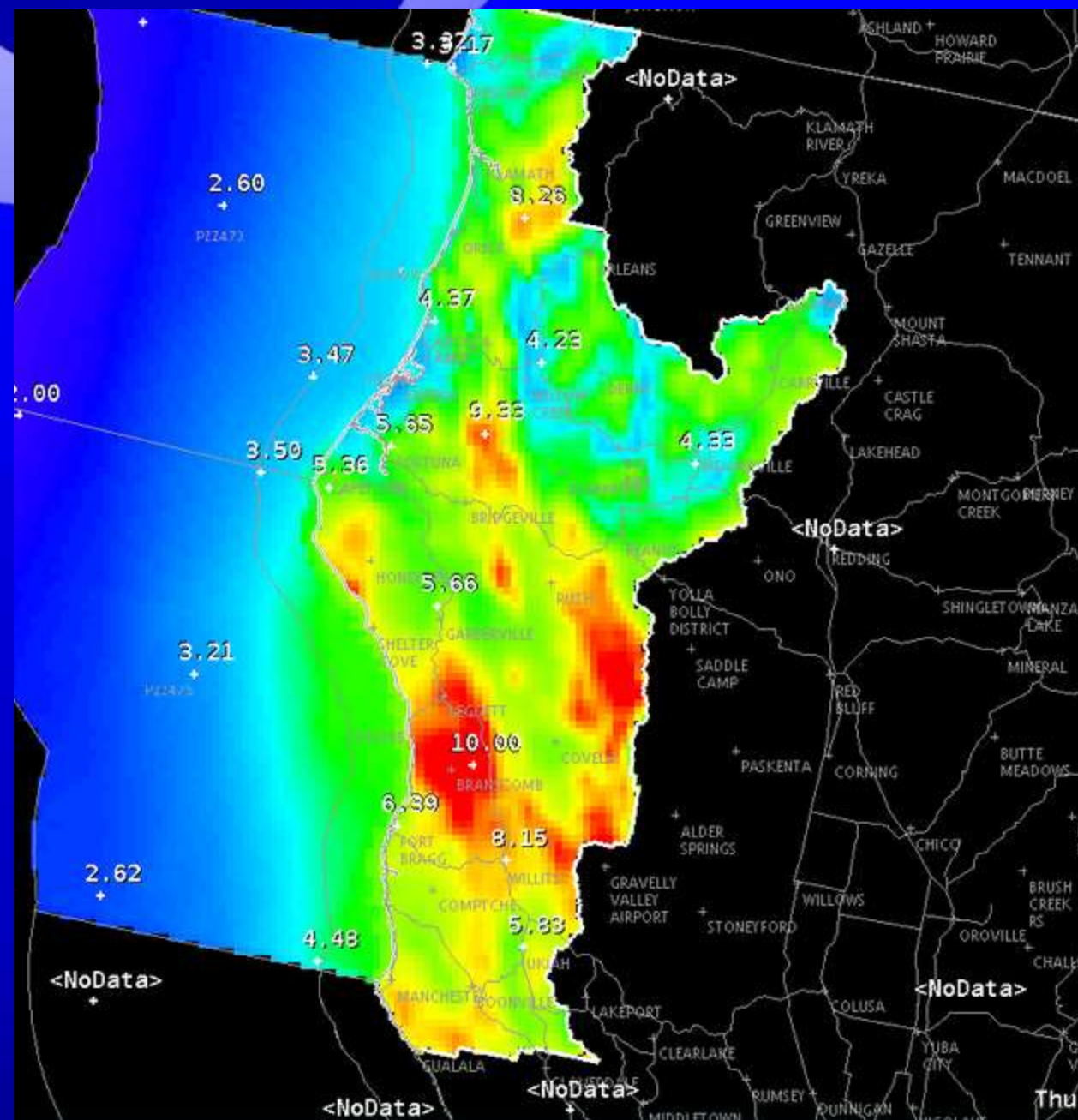
- ◆ Search “ENSO BLOG NOAA Climate”

- Climate Prediction Center

- ◆ <http://www.cpc.ncep.noaa.gov/>

- Drought Information

- ◆ <http://drought.gov>



Redwood Creek:

7 to 8 inches from
now to 4:00 p.m.
Friday

Wind: 30-40 mph
gusts to 50 at coast.
Up to 70 mph gusts
at exposed sites.

Surf: 19-24 feet
today through
Thursday.

Tides: low ☺

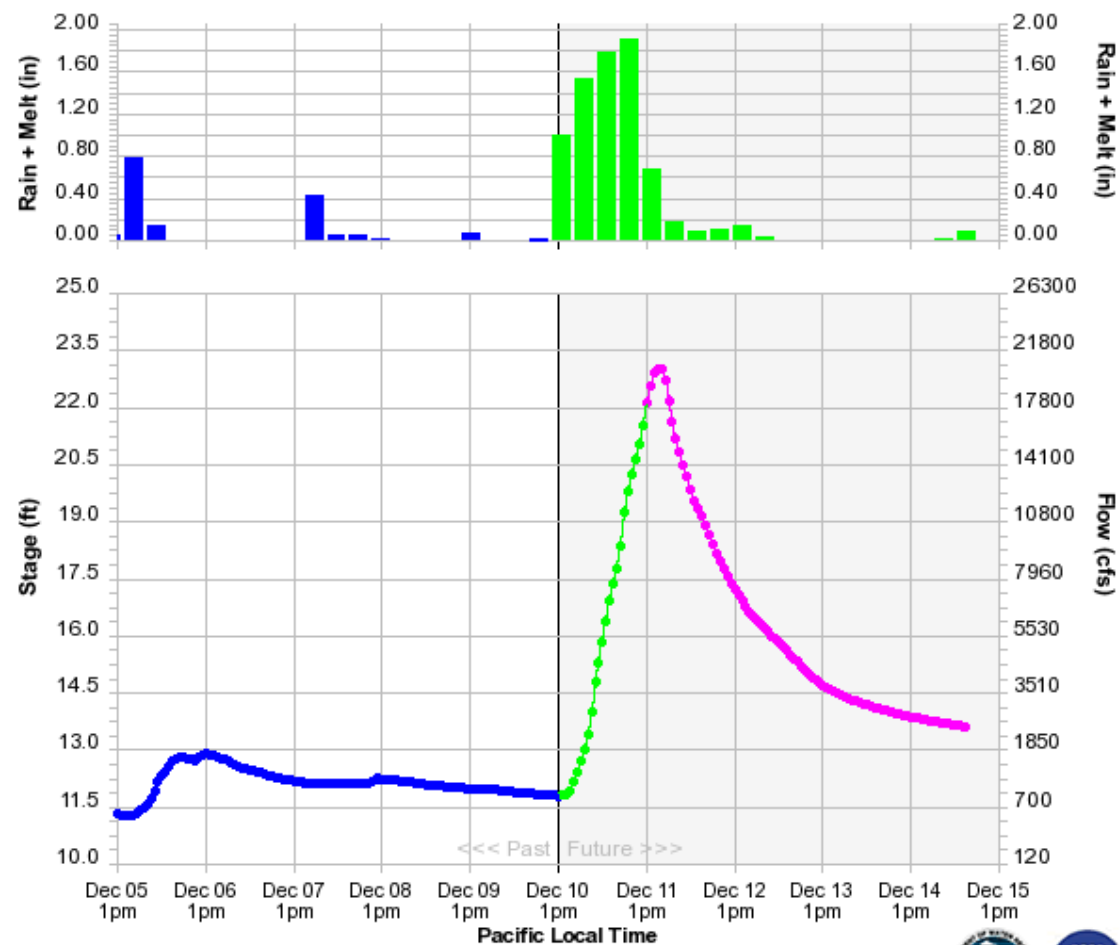
REDWOOD CREEK - ORICK (ORIC1)

Latitude: 41.30° N Longitude: 124.05° W Elevation: 5 Feet
Location: Humboldt County in California River Group: North Coast

Issuance Time: Dec 10 2014 at 1:47 PM PST Next Issuance: Dec 10 2014 at 9:00 PM PST

Monitor Stage: 26.0 Feet

Flood Stage: 32.0 Feet



Peak 23.0 feet
at 4:00 p.m.
Thursday
= 20,500 cfs

Message:

- Plan your travel around the weather
- Avoid driving Wednesday night
- If you must drive, slow down and watch for flooded/blocked roads.
- Never drive through flooded roads.